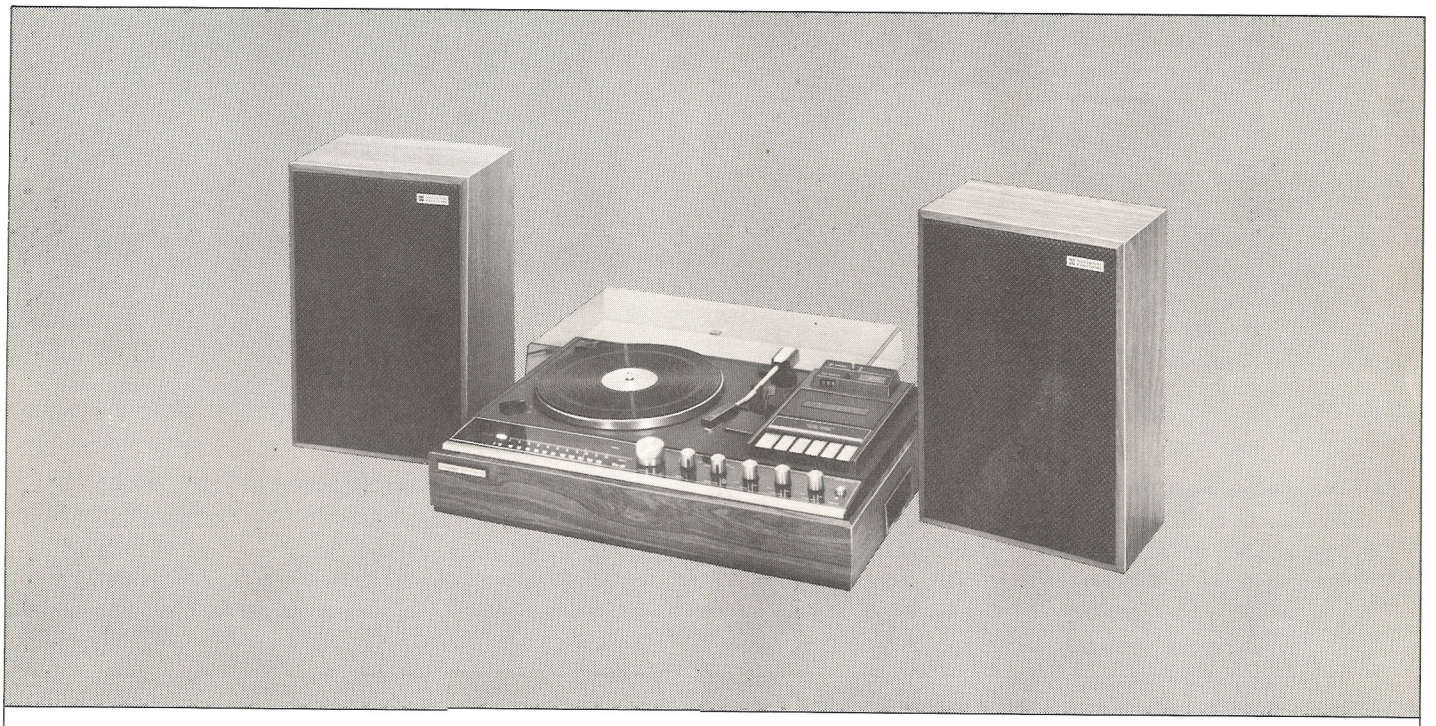
Service Manual

NATIONAL
COMPACT STEREO
PANASONIC



MODEL SG-1010L

SPECIFICATIONS

AMPLIFIER SECTION

Power Output:	5W-5W (MPO) 4.5W-4.5W (RMS)
Frequency Response:	30Hz-30kHz, −3dB
Input Sensitivity and Impedance:	200mV, 80kΩ
REC OUT and Impedance:	30mV, 80kΩ
Tone Controls:	0 ~ −20dB at 10kHz
Loudness Controls:	+4dB at 100Hz

FM TUNER SECTION

Frequency Range:	87.5 ~ 108MHz (3.43 ~ 2.78m)
Intermediate Frequency:	10.7MHz
Sensitivity:	4μV (S/N 26dB Mode. 40kHz) 75Ω
Harmonic Distortion: (at 1kHz, 60dB 30%)	0.8%
Signal to Noise Ratio: (at 1kHz, 60dB 30%)	60dB (MONO)

AM TUNER SECTION

Frequency Range:	MW 525 ~ 1605kHz (571 ~ 187m) LW 145 ~ 285kHz (2070 ~ 1050m)
Intermediate Frequency:	455kHz
Sensitivity:	MW 100μV/m for 50mW LW 150μV/m for 50mW

RECORD PLAYER SECTION

Turntable:	23 cm (9")
Turntable Speed:	33-1/3 & 45RPM
Motor:	2-Pole AC
Cartridge:	Ceramic
Stylus:	Sapphire

TAPE DECK SECTION

Deck System:	Auto-Stop Cassette System
Track System:	2-Ch, 4-Track
Recording System:	AC Bias 43kHz
Erasing System:	AC Erase
Tape Speed:	4.8 cm/sec. (1-7/8 ips.)
Frequency Response:	50 ~ 8000Hz, −6dB

SPEAKER SECTION

Type:	Air Suspension
Speaker:	16 cm (6-1/2"), High Compliance
Input Impedance:	8Ω

POWER SUPPLY:	AC 100-115V, 115-130V 200-225V, 225-250V, 50/60Hz
POWER CONSUMPTION:	40W

DIMENSIONS (W x D x H)

Center Unit:	500 mm (19-11/16") x 344 mm (13-9/16") x 149 mm (14-7/8")
Speaker System:	230 mm (9-1/16") x 144 mm (5-11/16") x 359 mm (14-1/8")

WEIGHT

Center Unit:	7.8 kg (17 lb. 2 oz)
Speaker System:	2.4 kg (5 lb. 3 oz) each

MATSUSHITA ELECTRIC
MATSUSHITA ELECTRIC TRADING CO., LTD.
P. O. Box 288, Central Osaka, Japan

ORDER NO. TSD-207

DISASSEMBLY INSTRUCTIONS

■ **To Remove Components from Printed Circuit Board (Refer to Figs. 1 and 2)**

1. Remove six (6) knobs.
2. Remove nine (9) bottom cover mounting screws.
3. Unplug 16P connector jack from cassette circuit board and power voltage plug from power voltage socket.
4. Remove eleven (11) red chassis mounting screws Nos. 1 ~ 13, as shown in Fig. 2.
5. Unsolder component and replace new component.
6. To reassemble, reverse about procedure.

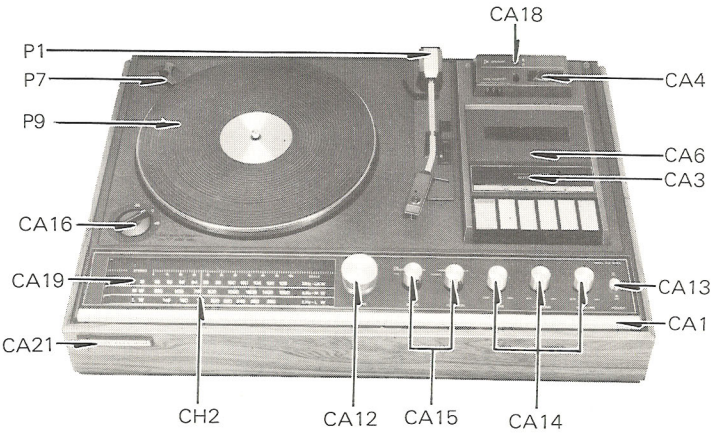


Fig. 1 FRONT VIEW (DUST COVER OPEN)

■ **To Remove Cassette Tape Deck (Refer to Fig. 2)**

1. Remove nine (9) bottom cover mounting screws.
2. Unplug 16P connector jack from cassette circuit board.
3. Remove four (4) red cassette tape deck mounting screws Nos. 1 ~ 4, as shown in Fig. 2.
4. To remove cassette tape deck completely, remove two mike jacks and unsolder two leads to level meter.
5. To reassemble, reverse above procedure.

■ **To Remove Phonomotor (Refer to Figs. 1 and 2)**

1. Remove turntable mat, circlip and turntable from motor shaft.
2. Remove nine (9) bottom cover mounting screws.
3. Remove three (3) phonomotor mounting screws and one nut.
4. Unsolder two (2) leads.
5. To reassemble, reverse above procedure.

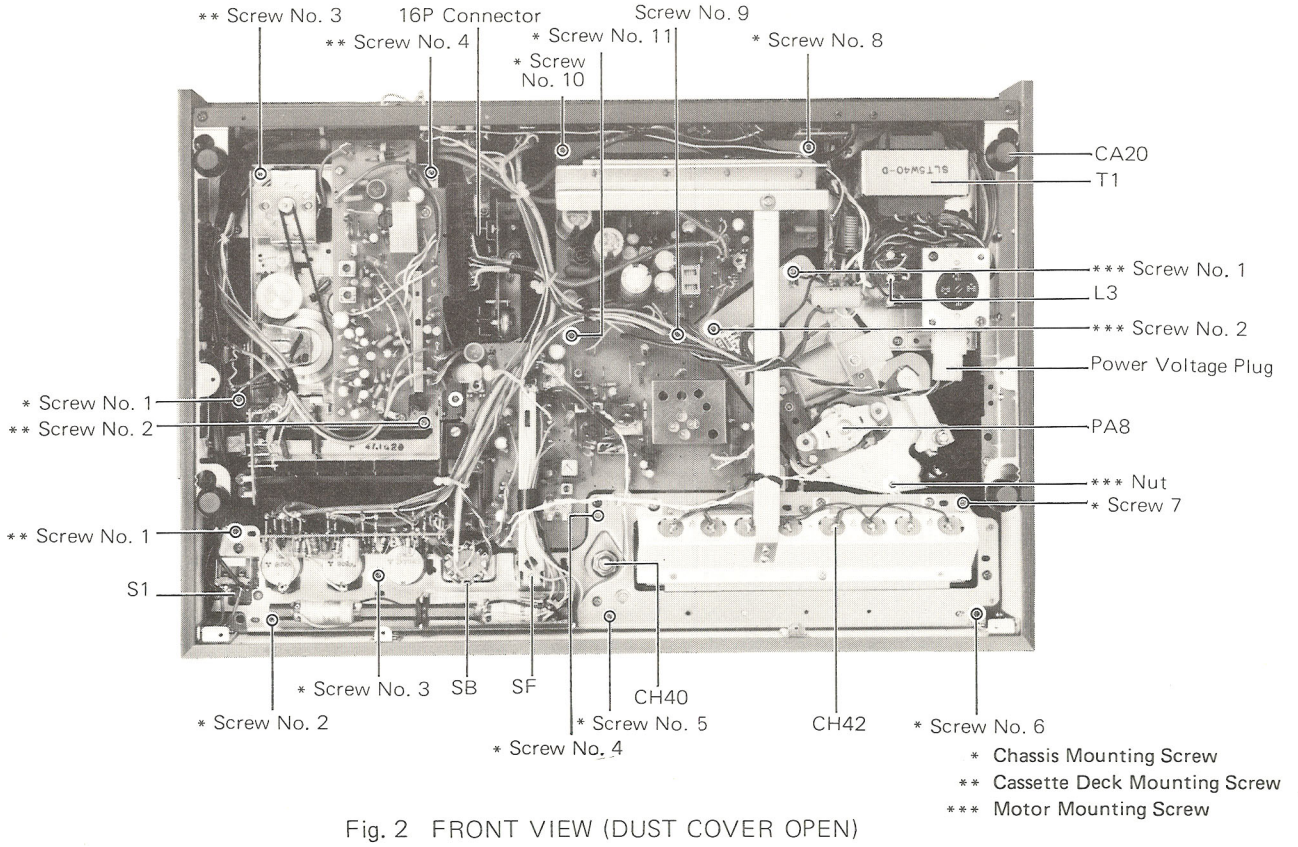
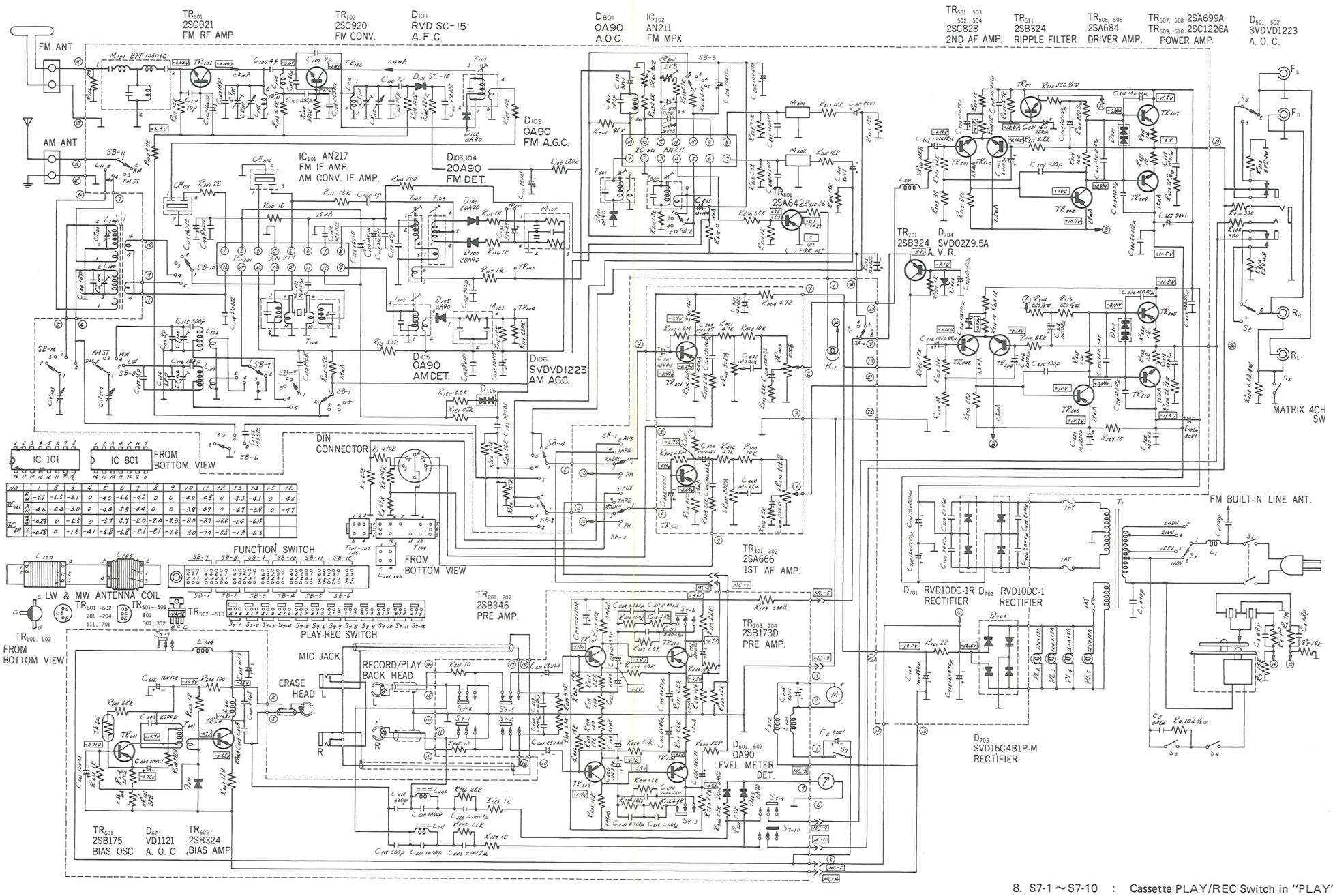


Fig. 2 FRONT VIEW (DUST COVER OPEN)

SCHEMATIC DIAGRAM MODEL SG-1010L

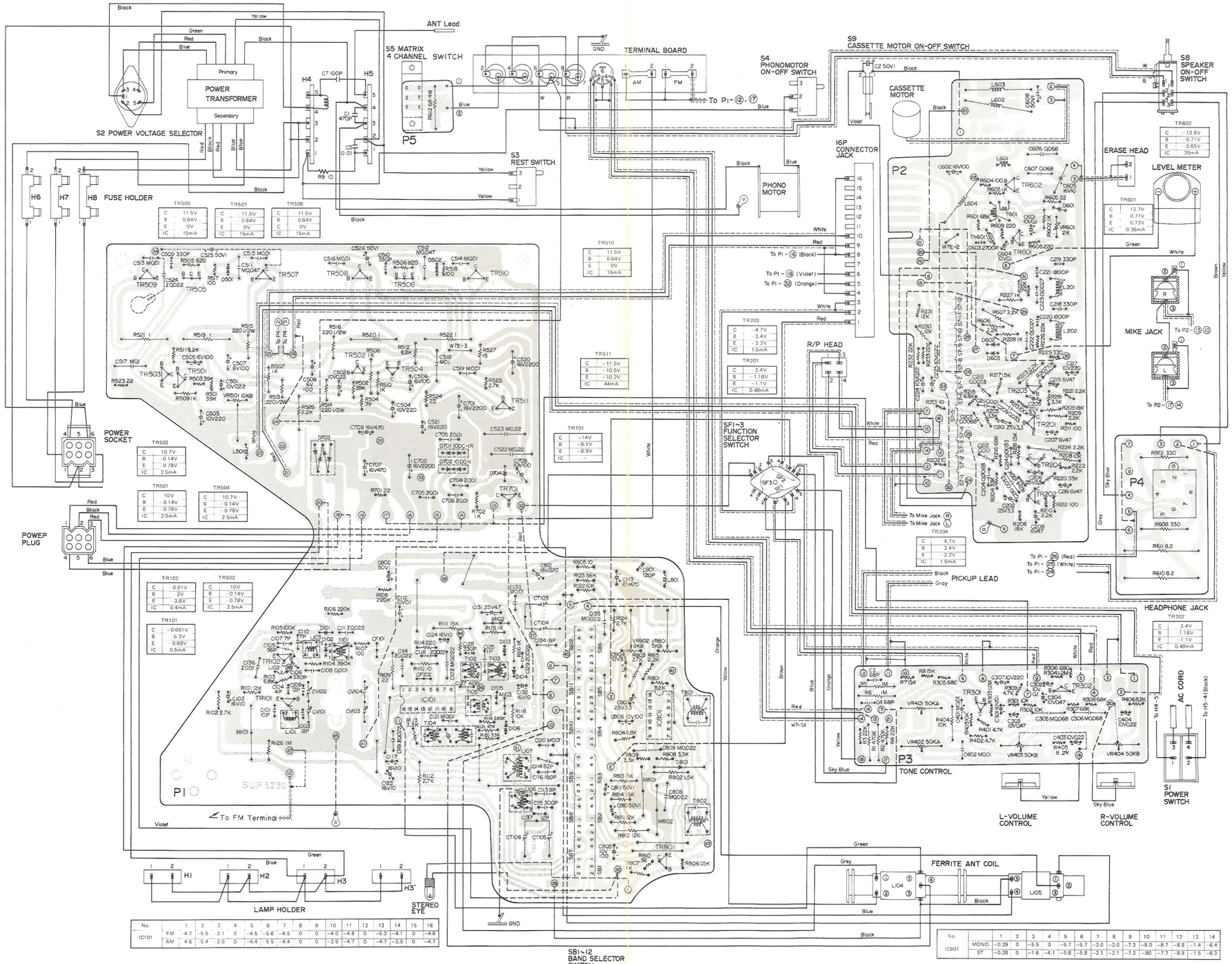


NO.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC_{101}	R	-4.7	-6.5	-3.1	0	-6.5	-5.6	-6.5	0	0	-4.0	-4.8	0	-2.3	-4.1	0	-4.8
	M	-4.6	-6.4	-3.0	0	-4.6	-5.5	-4.9	0	0	-3.9	-4.7	0	-4.7	-3.9	0	-4.7
IC_{801}	R	-6.29	0	-5.5	0	-5.7	-6.7	-2.0	-2.0	-7.3	-8.0	-8.7	-8.8	-1.4	-6.4		
	M	-6.28	0	-1.6	-4.1	-5.8	-5.8	-2.1	-2.1	-7.3	-8.0	-7.7	-8.8	-1.6	-6.3		

Notes:

1. SB-1 ~ SB-12 : Band Selector Switch in "FM" Position.
   1. Common 2. FM 3. FM STEREO 4. MW 5. LW
2. SF-1 ~ SF-3 : Function Selector Switch in "RADIO" Position.
   1. Common 2. PH 3. RADIO 4. TAPE 5. AUX
3. S1 : Power Switch in "OFF" Position.
4. S2 : Power Voltage Selector Switch in "110V" Position.
   1. Common 2. 110V 3. 125V 4. 210V 5. 240V
5. S3 : Rest Switch in "REST" Position.
6. S4 : Phonomotor ON-OFF Switch in "OFF" Position.
7. S5 : Matrix 4 Channel Switch in "MATRIX 4CH" Position.
8. S7-1 ~ S7-10 : Cassette PLAY/REC Switch in "PLAY" Position.
9. S8 : Speaker ON-OFF Switch in "ON" Position.
10. S9 : Cassette Motor Switch in "OFF" Position.
11. Letters M, K, Z, P and J indicate tolerance of resistors and capacitors as follows:
    M = ±20% K = ±10% Z = +80% −20% P = +100% − 0% J = ±5%
12. DC Voltages are to be measured with VTVM under no signal condition.

WIRING DIAGRAM MODEL SG-1010L



TR500	
C	11.5V
B	0.64V
E	0V
IC	15mA

TR507	
C	11.5V
B	0.64V
E	0V
IC	15mA

TR508	
C	11.5V
B	0.64V
E	0V
IC	15mA

TR510	
C	11.5V
B	0.64V
E	0V
IC	15mA

TR511	
C	-11.5V
B	-10.5V
E	-10.7V
IC	44mA

TR503	
C	10.7V
B	-0.14V
E	0.78V
IC	2.5mA

TR501	
C	10V
B	-0.14V
E	0.78V
IC	2.5mA

TR504	
C	10.7V
B	-0.14V
E	0.78V
IC	2.5mA

TR701	
C	-14V
B	-9.1V
E	-8.9V
IC	-

TR102	
C	-0.01V
B	3V
E	3.6V
IC	0.4mA

TR502	
C	10V
B	-0.14V
E	0.78V
IC	2.5mA

TR101	
C	-0.001V
B	6.3V
E	0.68V
IC	0.5mA

TR203	
C	4.7V
B	3.4V
E	3.2V
IC	1.5mA

TR201	
C	3.4V
B	1.16V
E	1.1V
IC	0.48mA

TR204	
C	4.7V
B	3.4V
E	3.2V
IC	1.5mA

TR602	
C	13.8V
B	0.71V
E	0.65V
IC	29mA

TR601	
C	13.7V
B	0.71V
E	0.72V
IC	0.36mA

TR202	
C	3.4V
B	1.16V
E	1.1V
IC	0.48mA

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC101	FM	4.7	5.5	3.1	0	4.5	5.6	4.5	0	0	4.0	4.8	0	5.3	4.1	0	4.8
	AM	4.6	5.4	3.0	0	4.4	5.5	4.4	0	0	3.9	4.7	0	4.7	3.9	0	4.7

No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC801	MONO	-0.29	0	-5.5	0	-5.7	-5.7	-2.0	-2.0	-7.3	-8.0	-8.7	-8.8	-1.4	-6.4
	ST	-0.28	0	-1.6	-4.1	-5.8	-5.8	-2.1	-2.1	-7.3	-80	-7.7	-8.8	-1.5	-6.3

REPLACING CARTRIGE AND STYLUS

- **Replacing Stylus (Refer to Fig. 3)**

1. Lift pickup arm to a position that will make stylus accessible.
2. Loosen holding screw and gently remove stylus. **Use screwdriver of correct size.**
3. Place the new stylus into position. Be sure stylus lever fits properly into armature.
4. Tighten holding screw no more than is necessary to keep it from shaking loose.

- **Replacing Cartridge (Refer to Fig. 3)**

1. Lift pickup arm to a position that will make cartridge accessible.
2. Remove cartridge holding screw, as shown in Fig. 3.
3. Disconnect four (4) connectors from cartridge terminals.
4. To install a new cartridge, reverse above procedure.

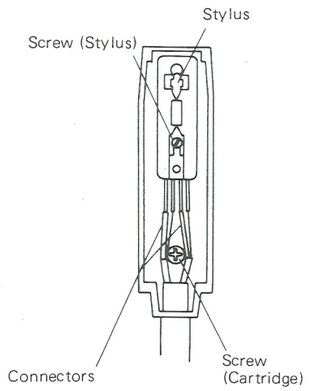


Fig. 3

DIAL CORD STRINGING GUIDE

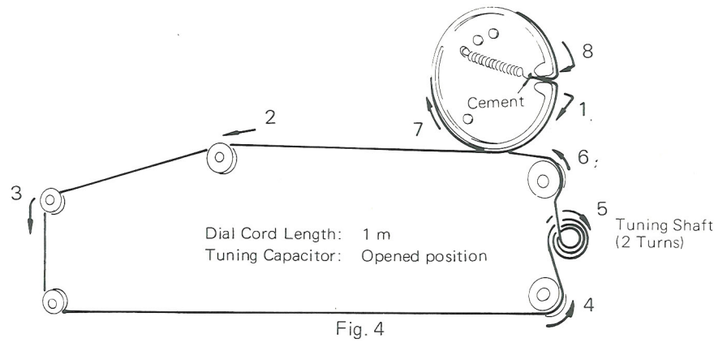


Fig. 4

ALIGNMENT POINTS (RADIO)

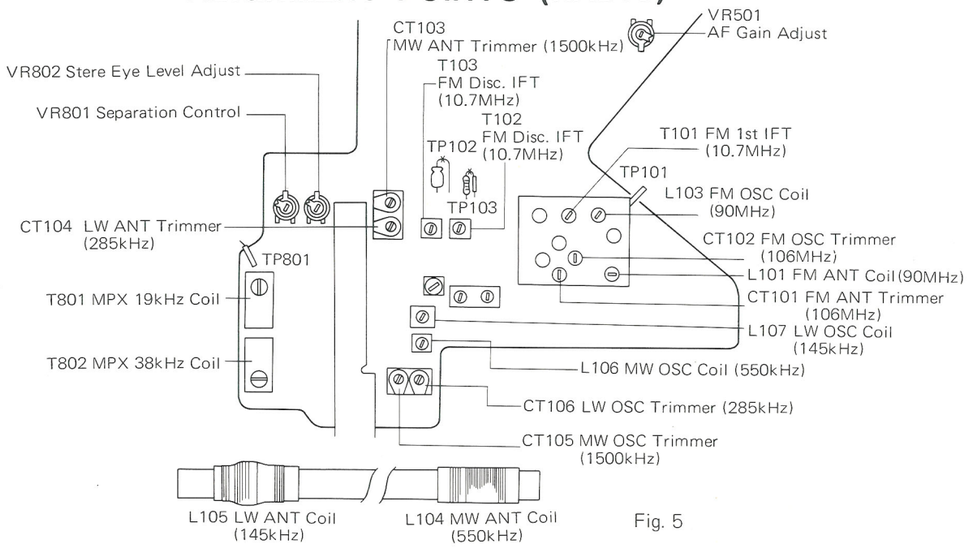


Fig. 5

ALIGNMENT INSTRUCTIONS (RADIO)

AF GAIN ALIGNMENT

Notes:

Audio Generator . . . . . 1kHz into L & R AUX inputs (30mV)
Attenuator . . . . . Connect Audio Generator (To DIN Jack)
Function Selector . . . . . "AUX"
Volume Control . . . . . Maximum
Tone Control . . . . . Maximum

STEP	ALIGNMENT	INDICATOR	ADJUST	REMARKS
1	AF gain balance alignment	VTVM of scope to left and right speaker jacks.	VR501	Make sure two VTVMs are balanced so that right channel outputs equals left.

FREQUENCY & DISTANCE ON DIAL

To accurately align the proper frequencies to the dial, refer to table and mark the edge of the dial accordingly using the "Start Point" mark on the dial as a reference point.

Band	Frequency	Distance from "Start Point"
LW	145 kHz 285 kHz	13 mm 110.3 mm
MW	550 kHz 1500 kHz	11.5 mm 110.2 mm
FM	90 MHz 106 MHz	14.7 mm 102.9 mm

IF & RF ALIGNMENT

- Output of signal generator should be no higher than necessary to obtain an output reading.
- Set function selector switch to RADIO.
- Set band selector switch to LW, MW and FM.
- Set volume control to maximum.
- Set tone control to high.

STEP	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
AM-IF & RF ALIGNMENT						
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	145 kHz 30% Mod. with 400Hz	145kHz (13 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	L105 (LW ANT Coil) L107 (LW OSC Coil)	Adjust for maximum output by sliding coil (L107) along ferrite core.
2	Fashion loop of several turns of wire and radiate signal into loop of receiver.	285kHz 30% Mod. with 400Hz	285kHz (110.3 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	CT104 (LW ANT Trimmer) CT106 (LW OSC Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550kHz 30% Mod. with 400Hz	550kHz (11.5 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	L104 (MW ANT Coil) L106 (MW OSC Coil)	Adjust for maximum output by sliding coil (L104) along ferrite core.
4	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500kHz 30% Mod. with 400Hz	1500kHz (110.2 mm)	Output meter across speaker jack (L) (Imp. 8Ω)	CT103 (MW ANT Trimmer) CT105 (MW OSC Trimmer)	Adjust for maximum output. Repeat steps (3) and (4).
	***1. Cement antenna bobbin with wax after completing alignment.** **2. T104 and T105 are pre-aligned. Do not touch them.**					
FM-IF ALIGNMENT						
1	High side thru. 0.001 mfd to point TP1. Common to chassis.	10.7MHz (400kHz SWP.)	Point of non-interference (on/about 98MHz)	Connect vert. amp. of scope to point TP102. Common to chassis.	T101 (FM 1st IFT)	Adjust for maximum amplitude and symmetrical curve. (Refer to Fig. 6-a)
2	High side thru. 0.001 mfd to point TP1. Common to chassis.	10.7MHz (400kHz (SWP.)	Point of non-interference (on/about 98MHz)	Connect vert. amp. of scope to point TP103. Common to chassis.	T102 (FM Disc. IFT) T103 (FM Disc. IFT)	Adjust for maximum amplitude andproper linearity between ±100kHz markers. (Refer to Fig. 6-b)
	*** Before aligning step 1, turn the cores of T102 and T103 fully counterclockwise.**					

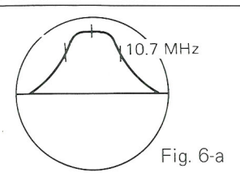


Fig. 6-a

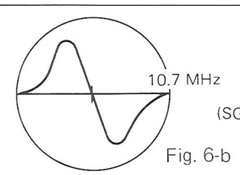


Fig. 6-b

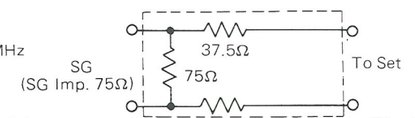


Fig. 7

ALIGNMENT INSTRUCTIONS (RADIO)

STEP	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
FM-RF ALIGNMENT						
1	Connect to EXT. FM antenna terminal through Dummy antenna. Common to chassis. (Refer to Fig. 7.)	90MHz 30% Mod. with 400Hz	90MHz (14.7 mm)	Output meter across speaker jack (L). (Imp. 8Ω)	L103 (FM OSC Coil) L101 (FM ANT Coil)	Adjust for maximum output.
2	Connect to EXT. FM antenna terminal through Dummy antenna. Common to chassis. (Refer to Fig. 7.)	106MHz 30% Mod. with 400Hz	106MHz (102.9 mm)	Output meter across speaker jack (L). (Imp. 8Ω)	CT102 (FM OSC Trimmer) CT101 (FM ANT Trimmer)	Adjust for maximum output. Repeat steps (1) and (2).

* **As three output readings will be present, adjustments must be made at center frequency.**
* **To correct drift at the FM dial scale (87.5 or 108MHz), adjust coil L103 and trimmer CT103 each other.**

Notes:

1. Stereo Modulator . . . . . Connect Stereo Modulator to EXT. Mod. terminal of signal generator
2. Signal Generator . . . . . Modulation Rate of 19kHz Pilot Signal 10%
   Output Level 30dB
   Frequency . . . . . Approx. 98MHz
3. Tuner . . . . . Approx. 98MHz
   Volume Control . . . . . Audible level of speaker sound
   Tone Control . . . . . Center
   Band Selector . . . . . FM STEREO

19kHz AMP. ALIGNMENT

EQUIPMENT CONNECTION		ADJUST	REMARKS
SIGNAL GENERATOR	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna. (Refer to Fig. 7.)	Connect vert. Amp. of scope to point TP801. Common to chassis.	T801 (19kHz Coil)	Adjust for maximum oscilloscope pattern of 19kHz.

SEPARATION ALIGNMENT

Notes:

1. Signal Generator . . . . . Modulation Rate of 19kHz Pilot Signal 10%
   Modulation Rate of Right and Left Signal 27%
   Output Level 60dB
2. Tuner (Balance Control) . . . Adjust balance control so that output level from both channels becomes equal.

EQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna. (Refer to Fig. 7.)	Connect across speaker jack. (Left side) (Imp. 8Ω)	Connect to terminals of VTVM	T802 (MPX Coil) VR801 (Separation Control)	Adjust T802 and VR801 for minimum indication on VTVM from the left side output when the right side of stereo modulator is modulated. Adjust T802 and VR801 in the same way for the right side.

* **Before separation alignment disconnect lead between TP801 and Oscilloscope.**

STEREO EYE LEVEL CHECK AND ALIGNMENT

Connect to EXT. FM antenna terminal through dummy antenna. (Refer to Fig. 7.)	Connect across speaker jack. (Left side) (Imp. 8Ω)	Connect to terminals of VTVM	VR802 (Stereo Eye Level Adjust)	Stereo eye should light up when about 17dB is applied from signal generator. If not, adjust VR802 to light up.

ALIGNMENT INSTRUCTIONS (TAPE RECORDER)

CONTROL SETTING & PROCEDURE

- Set function selector switch to TAPE.
- Depress push buttons PLAY and REC at the same time.
- Set power source switch to ON.

Refer to Fig. 7.

STEP	CIRCUITS	VTVM CONNECTION	VOLUME CONTROL	ADJUSTMENT	REMARKS
1	AC BIAS OSCILLATOR & ERASE	Connect positive side to TP1 (+) and negative side to TP2 (−).	MIN.	T601 (AC Bias OSC) VR601 (OSC Level Adjust)	Adjust T601 for maximum indication of VTVM. Adjust VR601 for 4.5V reading on VTVM-1.
2	AC BIAS OSCILLATOR & ERASE	Connect positive side to TP3 and negative side to lug.	MIN.	L201 (AC Bias Trap Coil)	Adjust L201 for 3.2 ± 0.1 mV reading on VTVM.
3	AC BIAS OSCILLATOR & ERASE	Connect positive side to TP4 and negative side to lug.	MIN.	L202 (AC Bias Trap Coil)	Adjust L202 for 3.2 ± 0.1 mV reading on VTVM. Repeat steps (2) and (3).

Notes:

1. Cement part of semi-fixed volume control (VR601), as shown in Fig. 8.
2. Do not touch R/P head and Erase head when adjusting.

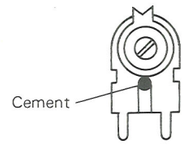


Fig. 8

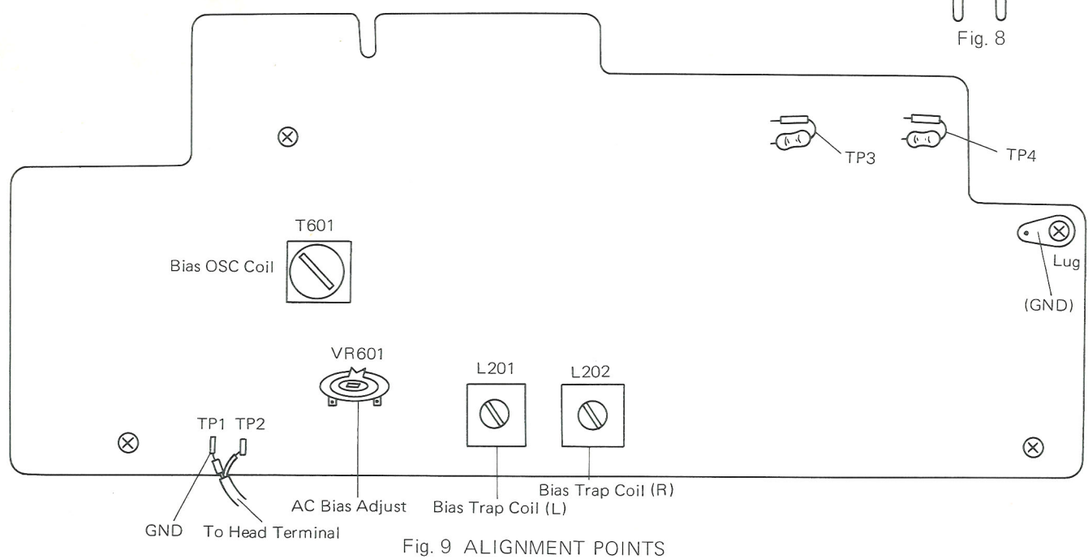


Fig. 9 ALIGNMENT POINTS

RECORD/PLAYBACK HEAD AZIMUTH ADJUSTMENT

Playback a Standard Alignment Tape and turn head adjustment screw for maximum ludness.

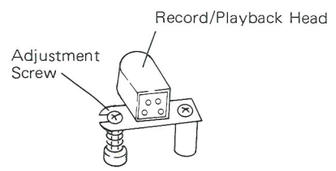
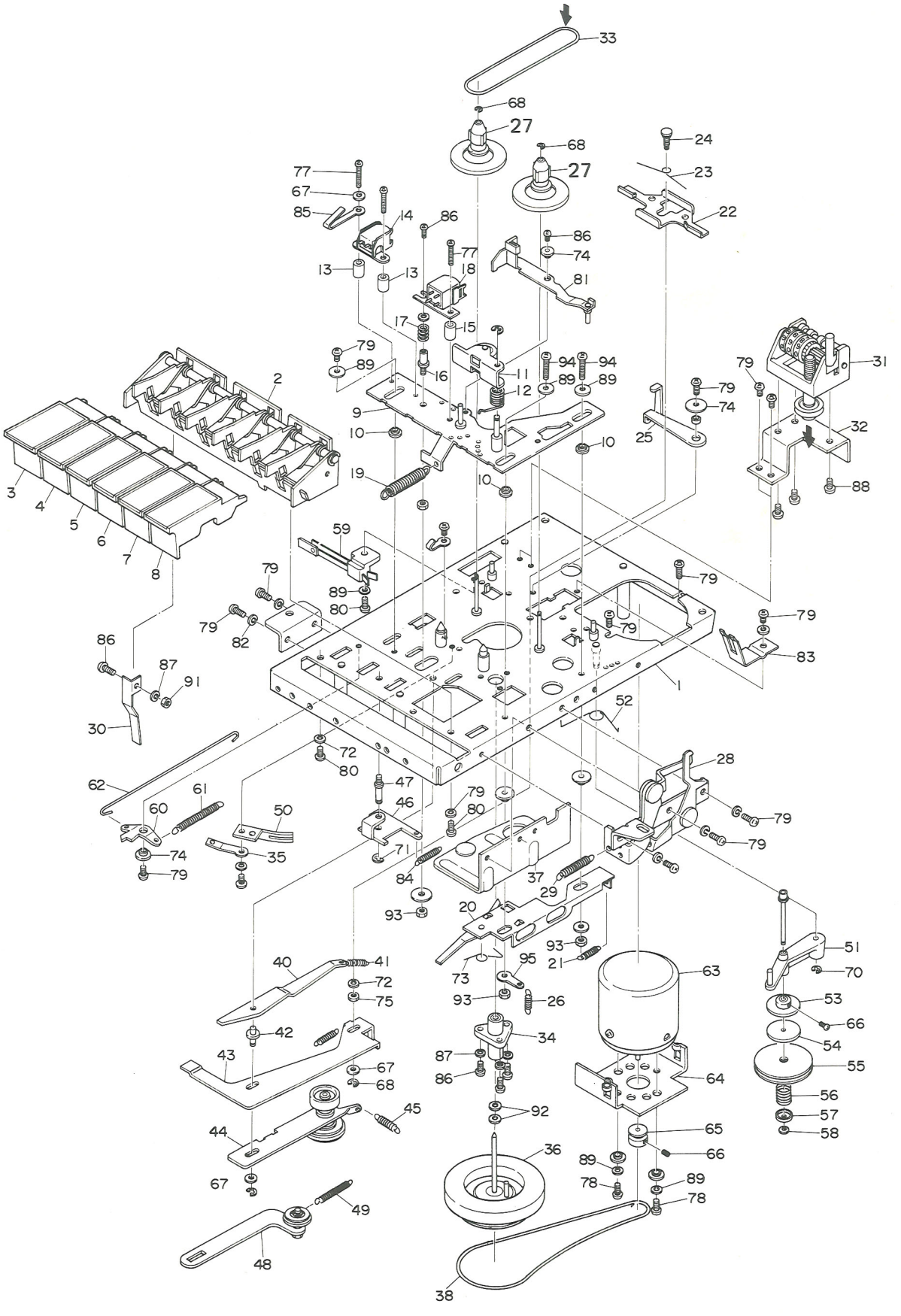


Fig. 10

EXPLODED VIEW OF CASSETTE TAPE DECK



REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
TRANSISTORS AND INTEGRATED CIRCUITS				
TR101	2SC921L	FM RF Amplifier	1	X
TR102	2SC920R	FM Converter	1	X
TR201, 202	2SB346Q	Equalizer Pre-amplifier	2	X
TR203, 204	2SB173D	Equalizer Pre-amplifier	2	X
TR301, 302	2SA666R	1st AF Amplifier	2	X
TR501~504	2SC828R	2nd AF Amplifier	4	X
TR505, 506	2SA684Q,R	Driver Amplifier	2	X
TR507, 508	2SA699AP,Q	Power Output	2	X
TR509, 510	2SC1226AP,Q	Power Output	2	X
TR511, 602, 701	2SB324V,K,L	Bias Amplifier	3	X
TR601	2SB175B	Bias Oscillator	1	X
TR801	2SA642S,W,R	Stereo Eye Switching	1	X
IC101	AN217B,B	FM, AM IF Amplifier	1	X
IC801	AN211B	FM, MPX Amplifier	1	X
DIODES				
D101	RVDSC-15	AFC	1	X
D102, 105	0A90	AGC, DET	2	X
D603, 602	0A90	Rectifier	2	X
D801	0A90	AOC	1	X
D103, 104	2-0A90	FM Detector	2	X
D103, 501, 502	SVDVD1223	AOC & AGC	3	X
D601	VD1121	AOC	1	X
D701	RVD10DC1R	Rectifier	1	X
D702	RVD10DC1	Rectifier	1	X
D703	SVD16C4B1P-M	Rectifier	1	X
THERMISTOR				
TH601	RRT103	Temperature Compensator	1	X
INDICATOR				
	SSM26	Level Meter	1	X
LAMPS				
LA1~4	XAMR20T	Dial Lamp	4	X
LA5	XAM16T300	Stereo Eye	1	X
FU1~3	XBAS2A1004	Fuse 1A	3	X
COILS AND TRANSFORMERS				
L104, 105	SLF6G10	LW & MW Ferrite Antenna Coil	1	New X
L102	ELQ5A9R	IF Trap Coil	1	X
L103	ELL5N305	FM Oscillator Coil	1	
L101	ELD5N302	FM Antenna Coil	1	X
L106	SLO2B10-M	MW Oscillator Coil	1	New X
L107	SLO1C2-M	LW Oscillator Coil	1	X
L1	SLQY35G-2D	RFC	1	X
L601, 801	SLQV393-4Y	SCA Filter Coil	2	X
L602, 603, 604	ELQ250A999	Peaking Coil	3	X
L201, 202	RLQC542-1	Trap Coil	2	X
L501	SLD4Y6	Hum Protector Coil	1	X
T101	RLI4B153-M	FM 1st IFT	1	X
T102	SLI4B502	FM Disc. IFT (Primary)	1	X
T103	SLI4B506	FM Disc. IFT (Secondary)	1	X
CF101, 102	SVFCF10M12CW	FM Ceramic	2	X
T104	SLI7W102P-T	AM 1st IFT	1	X
T105	SLI2B406P-T	AM 2nd IFT	1	X
T601	SLO9Z10-T	AC Bias Oscillator	1	X
T801	SLM2D2-2K	MPX 19kHz Coil	1	X
T802	SLM3D2-2K	MPX 38kHz Coil	1	X
M101	RXABPF10801C	Band Pass Filter	1	X
T1	SLT5W40-D	Power Transformer	1	New X
COMPONENT COMBINATION				
M102	EXA5DM04C	4.7kΩ (two), 330pF (three)	1	Y
M103	EXAF203Z471	0.02μF (two), 470Ω	1	Y
M801, 802	SXAM674F	35mH, 2200pF, 30kΩ, 50kΩ	2	Y
RESISTORS (Main Circuit)				
R110, 805	ERD14VJ100	10Ω 1/4 Watt ±5% Carbon	2	Z
R527	ERD14VJ150	15Ω 1/4 Watt ±5% Carbon	1	Z
R503, 504	ERD14VJ390	39Ω 1/4 Watt ±5% Carbon	2	Z
R810	ERD14VJ560	56Ω 1/4 Watt ±5% Carbon	1	Z
R107, 517, 518	ERD14VJ101	100Ω 1/4 Watt ±5% Carbon	3	Z
R701	ERD14VJ220	22Ω 1/4 Watt ±5% Carbon	1	Z
R114	ERD14VJ221	220Ω 1/4 Watt ±5% Carbon	1	Z
R505, 506	ERD14VJ821	820Ω 1/4 Watt ±5% Carbon	2	Z
R115, 116, 507, 509, 510, 702, 807	ERD14VJ102	1kΩ 1/4 Watt ±5% Carbon	7	Z
R806	ERD14VJ152	1.5kΩ 1/4 Watt ±5% Carbon	1	Z
R526	ERD14TJ222	2.2kΩ 1/4 Watt ±5% Carbon	1	Z
R102, 525, 803	ERD14VJ272	2.7kΩ 1/4 Watt ±5% Carbon	3	Z
R113, 120, 808, 809	ERD14VJ332	3.3kΩ 1/4 Watt ±5% Carbon	4	Z
R103, 804	ERD14VJ682	6.8kΩ 1/4 Watt ±5% Carbon	2	Z
R511, 512	ERD14VJ822	8.2kΩ 1/4 Watt ±5% Carbon	2	Z
R118, 122	ERD14VJ103	10kΩ 1/4 Watt ±5% Carbon	2	Z
R101, 811, 812	ERD14VJ123	12kΩ 1/4 Watt ±5% Carbon	3	Z
R815	ERD14VJ222	2.2kΩ 1/4 Watt ±5% Carbon	1	Z
R813, 814	ERD14VJ153	15kΩ 1/4 Watt ±5% Carbon	2	Z
R124	ERD14VJ273	27kΩ 1/4 Watt ±5% Carbon	1	Z
R501, 502	ERD14VJ393	39kΩ 1/4 Watt ±5% Carbon	2	Z
R121	ERD14VJ473	47kΩ 1/4 Watt ±5% Carbon	1	Z
R123	ERD14VJ563	56kΩ 1/4 Watt ±5% Carbon	1	Z
R105	ERD14VJ104	100kΩ 1/4 Watt ±5% Carbon	1	Z
R801	ERD14VJ823	82kΩ 1/4 Watt ±5% Carbon	1	Z
R106, 108, 119	ERD14VJ224	220kΩ 1/4 Watt ±5% Carbon	3	Z

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
R104	ERD14VJ394	390kΩ 1/4 Watt ±5% Carbon	1	Z
R126	ERD14VJ105	1MΩ 1/4 Watt ±5% Carbon	1	Z
R519, 520, 521, 522	ERX1ANJ1R0	1Ω 1 Watttt ±5% Metal Film	4	Z
R523, 524	ERC12GK220	22Ω 1/2 Watt ±10% Solid	2	Z
R513, 514, 515, 516	ERC12GK221	220Ω 1/2 Watt ±10% Solid	4	Z
R802	ERD14TJ152	1.5kΩ 1/4 Watt ±5% Carbon	1	Z
R117, 508	ERD14TJ102	1kΩ 1/4 Watt ±5% Carbon	2	Z
R111	ERD14TJ153	15kΩ 1/4 Watt ±5% Carbon	1	Z
R109	ERD14TJ220	22Ω 1/4 Watt ±5% Carbon	1	Z
R112	ERD14TJ272	2.7kΩ 1/4 Watt ±5% Carbon	1	Z
(Cassette Circuit)				
R605	ERD14VJ220	22Ω 1/4 Watt ±5% Carbon	1	Z
R211, 212, 604	ERD14VJ101	100Ω 1/4 Watt ±5% Carbon	3	Z
R608, 609	ERD14VJ221	220Ω 1/4 Watt ±5% Carbon	2	Z
R229	ERD14VJ331	330Ω 1/4 Watt ±5% Carbon	1	Z
R227, 228, 602, 603	ERD14VJ102	1kΩ 1/4 Watt ±5% Carbon	4	Z
R217, 218	ERD14VJ152	1.5kΩ 1/4 Watt ±5% Carbon	2	Z
R209, 210, 221, 222, 223, 606, 607	ERD14VJ222	2.2kΩ 1/4 Watt ±5% Carbon	7	Z
R203, 204	ERD14VJ332	3.3kΩ 1/4 Watt ±5% Carbon	2	Z
R215, 216	ERD14VJ682	6.8kΩ 1/4 Watt ±5% Carbon	2	Z
R207, 208	ERD14VJ103	10kΩ 1/4 Watt ±5% Carbon	2	Z
R230, 231	ERD14VJ123	12kΩ 1/4 Watt ±5% Carbon	2	Z
R205, 206	ERD14VJ183	18kΩ 1/4 Watt ±5% Carbon	2	Z
R225, 226, 232, 233	ERD14VJ223	22kΩ 1/4 Watt ±5% Carbon	4	Z
R219, 220	ERD14VJ333	33kΩ 1/4 Watt ±5% Carbon	2	Z
R601	ERD14VJ683	68kΩ 1/4 Watt ±5% Carbon	1	Z
R213, 214	ERD14VJ104	100kΩ 1/4 Watt ±5% Carbon	2	Z
R201, 202	ERD14TJ100	10Ω 1/4 Watt ±5% Carbon	2	Z
R224	ERD14TJ222	2.2kΩ 1/4 Watt ±5% Carbon	1	Z
(Control Circuit)				
R305, 306	ERD14VJ681	680Ω 1/4 Watt ±5% Carbon	2	Z
R405, 406	ERD14VJ822	8.2kΩ 1/4 Watt ±5% Carbon	2	Z
R307, 308, 403	ERD14VJ103	10kΩ 1/4 Watt ±5% Carbon	3	Z
R7, 8	ERD14VJ153	15kΩ 1/4 Watt ±5% Carbon	2	Z
R3, 4	ERD14VJ223	22kΩ 1/4 Watt ±5% Carbon	2	Z
R401, 402, 309	ERD14VJ472	4.7kΩ 1/4 Watt ±5% Carbon	3	Z
R301, 302	ERD14VJ683	68kΩ 1/4 Watt ±5% Carbon	2	Z
R404	ERD14TJ103	10kΩ 1/4 Watt ±5% Carbon	1	Z
R1, 2	ERD14TJ474	470kΩ 1/4 Watt ±5% Carbon	2	Z
R5, 6	ERD14TJ105	1MΩ 1/4 Watt ±5% Carbon	2	Z
R303, 304	ERC12GK125	1.2MΩ 1/4 Watt ±10% Solid	2	Z
(Q'plex Circuit and Others)				
R901, 902	ERC12GK331	330Ω 1/2 Watt ±10% Solid	2	Z
R903, 904	ERM4P8R2	8.2Ω 4 Watts ±10% Wire	2	Z
R905	ERM4P6R8	6.8Ω 4 Watts ±10% Wire	1	Z
R9	ERC12GK100	10Ω 1/2 Watt ±10% Solid	1	Z
CAPACITORS (Main Circuit)				
C125	ECCD1H010C	1pF 50WV ±0.25pF Ceramic	1	Z
C104	ECCD1H040C	4pF 50WV ±0.25pF Ceramic	1	Z
C107, 110	ECCD1H070D	7pF 50WV ±0.5pF Ceramic	2	Z
C113	ECCD1H080K	8pF 50WV ±10% Ceramic	1	Z
C101	ECCD1H100K	10pF 50WV ±10% Ceramic	1	Z
C109, 137	ECCD1H120K	12pF 50WV ±10% Ceramic	2	Z
C127	ECCD1H470K	47pF 50WV ±10% Ceramic	1	Z
C114	ECCD1H820K	82pF 50WV ±10% Ceramic	1	Z
C103, 134	ECCD1H180K	18pF 50WV ±10% Ceramic	2	Z
C105	ECCD1H560K	56pF 50WV ±10% Ceramic	1	Z
C108	ECKC1H102MD	0.001μF 50WV ±20% Ceramic	1	Z
C120, 121, 133	ECKC1H103MD	0.01μF 50WV ±20% Ceramic	3	Z
C122, 135, 808, 809	ECKC1H223MD	0.022μF 50WV ±20% Ceramic	4	Z
C136, 703~706	ECKC1H103ZFZ	0.01μF 50WV +80, −20% Ceramic	5	Z
C111, 114, 118, 119, 129	ECKC1H223ZFZ	0.022μF 50WV +80, −20% Ceramic	5	Z
C524	ECKD1H223ZFZ	0.022μF 50WV +80, −20% Ceramic	1	Z
C112	ECAG10ER1-Y	0.1μF 10WV Electrolytic	1	Y
C801	ECQS1121JZ	120pF 100WV ±5% Styrol	1	Z
C116	ECQS1181JZ	180pF 100WV ±5% Styrol	1	Z
C115	ECQS1301JZ	300pF 100WV ±5% Styrol	1	Z
C106, 128, 509, 510	ECQS1331JZ	330pF 100WV ±5% Styrol	4	Z
C513, 514, 515, 516, 519	ECQM05103MZ	0.01μF 50WV ±20% Polyester	5	Z
C511, 512	ECQM05473MZ	0.047μF 50WV ±20% Polyester	2	Z
C517, 518	ECQM05104MZ	0.1μF 50WV ±20% Polyester	2	Z
C522, 523	ECQM05224MZ	0.22μF 50WV ±20% Polyester	2	Z
C802, 810, 811	ECEA50V1L	1μF 50WV Electrolytic	3	Y
C803	ECEA25V3R3L	3.3μF 25WV Electrolytic	1	Y
C102, 117, 123, 124, 132	ECEA16V10L	10μF 16WV Electrolytic	5	Y
C804	ECEA10V33L	33μF 10WV Electrolytic	1	Y
C505~508	ECEA6V100L	100μF 6WV Electrolytic	4	Y
C805, 806, 709	ECEA10V100L	100μF 10WV Electrolytic	3	Y
C503, 504	ECEA10V220L	220μF 10WV Electrolytic	2	Y
C521, 812	ECEA16V220L	220μF 16WV Electrolytic	2	Y
C813	ECEA10V470L	470μF 10WV Electrolytic	1	Y
C707, 708	ECEA16V470L	470μF 16WV Electrolytic	2	Y
C520, 701, 702	ECEA16V2200L	2200μF 16WV Electrolytic	3	Y
C501, 502	ECAG10ER22-Y	0.22μF 10WV Electrolytic	2	Y
C131	ECEB25V4R7L	4.7μF 25WV Electrolytic	1	Y
C526	ECEA50V1L	1μF 50WV Electrolytic	1	Y
C525	ECEB50V1L	1μF 50WV Electrolytic	1	Y

REPLACEMENT PARTS LIST (Cont'd)

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
		(Cassette Circuit)		
C218, 219	ECQS1331KZ	330pF 100WV ±10% Styrol	2	Z
C220, 221	ECQS1182JZ	1800pF 100WV ±5% Styrol	2	Z
C603	ECQS1272JZ	2700pF 100WV ±5% Styrol	1	Z
C211, 212	ECQM05102MZ	0.001μF 50WV ±20% Polyester	2	Z
C222, 223	ECQM05272MZ	0.0027μF 50WV ±20% Polyester	2	Z
C213, 214	ECQM05332MZ	0.0033μF 50WV ±20% Polyester	2	Z
C203, 204	ECQM05682MZ	0.0068μF 50WV ±20% Polyester	2	Z
C209, 210	ECQM05333MZ	0.033μF 50WV ±20% Polyester	2	Z
C606, 607	ECQM05683KZ	0.068μF 50WV ±10% Polyester	2	Z
C601, 604	ECAG10ER1-Y	0.1μF 10WV Electrolytic	2	Z
C224, 225	ECAG10ER22-Y	0.22μF 10WV Electrolytic	2	Z
C201, 202, 205, 206	ECEA25V3R3L	3.3μF 25WV Electrolytic	4	Z
C605	ECEA16V10L	10μF 16WV Electrolytic	1	Y
C207, 208, 215, 216	ECEA6V47L	47μF 6WV Electrolytic	4	Y
C608	ECEA50V1L	1μF 50WV Electrolytic	1	Y
C602	ECEA16V100L	100μF 16WV Electrolytic	1	Y
C217	ECEA10V220L	220μF 10WV Electrolytic	1	Y
		(Control Circuit and Others)		
C401, 402	ECQM05103MZ	0.01μF 50WV ±20% Polyester	2	Z
C305, 306	ECQM05683MZ	0.068μF 50WV ±20% Polyester	2	Z
C301, 302	ECAG10ER1-Y	0.1μF 10WV Electrolytic	2	Z
C403, 404	ECAG10ER22-Y	0.22μF 10WV Electrolytic	2	Z
C303, 304	ECAG10ER47-Y	0.47μF 10WV Electrolytic	2	Z
C307	ECEA10V220L	220μF 10WV Electrolytic	1	Y
C2	ECEA50V1L	1μF 50WV Electrolytic	1	Y
C1	ECKDES471MB	470pF 250WV(AC) ±20% Ceramic	1	Z
C3, 4	ECCD1H680K	68pF 50WV ±10% Ceramic	2	Z
C5	ECQW8A103M	0.01μF 800WV ±20% Polyester	1	Z
C7	BP21	100pF 1400WV ±10% Mica	1	Z
		VARIABLE RESISTORS		
VR401, 402	EVFNTAL40A54	50kΩ, Tone Control	2	X
VR403, 404	EVE26AL40B54	50kΩ, Volume Control	1	X
VR601	EVLT0AA00B23	2kΩ, AC Bias Adjust	1	X
VR501	EVLS3AA00B14	10kΩ, AF Gain Control	1	X
VR802	EVLS3AA00B23	2kΩ, Stereo Eye Level Adjust	1	X
VR801	EVLS3AA00B53	5kΩ, Separation Control	1	X
		VARIABLE CAPACITORS		
CV101~104	PVC22J20T2L	Tuning Capacitor	1	New X
CT103~106	SCV3T-10S	Trimmer Capacitor	2	X
		SWITCHES		
SB1~10	SSR36	Band Selector Switch	1	New X
SF1~3	ESRE134L40AE	Function Selector Switch	1	X
S1	ESB-1140DS	Power Switch	1	X
S2	SSR6	Power Voltage Selector	1	Y
S3, 4	SS5	Phonomotor ON-OFF Switch	2	X
S5	SSS36	Q'plex Switch	1	X
S7-1~9	SSH20-2	REC Switch	1	X
S8	SSH32	Speaker ON-OFF Switch	1	X
		SPEAKERS		
SP	EAS16PL33SP	16 cm PM Dynamic, 8Ω	2	X
		PLAYER		
P1	SPU4	Pickup	1	X
P2	SPC4	Cartridge with Stylus	1	X
P3	SPJ4	Stylus	1	X
P4	SKE76	Pickup Holder	1	Y
P5	FP-GW7710	Rubber Cushion, Pickup	1	Y
P6	SNE410	Nut, Pickup Holder	1	Y
P7	SGE44	45 RPM Adaptor	1	Y
P8	FF903	Phonomotor	1	X
P9	SJY3	Turntable Mat Ass'y	1	Y
P10	2E8HP	Motor only	1	Y
		CHASSIS		
CH1	SDH156-1	Back Plate	1	Z
CH2	SDP132-1	Pointer Assembly	1	Z
CH3	RDR8	Pulley	2	Z
CH4	RDR13	Pulley	2	Z
CH5	RDY2	Pulley Shaft	2	Z
CH6	RDR14	Pulley	1	Z
CH7	RDY1	Pulley Shaft	1	Z
CH8	RDY8	Pulley Shaft	1	Z
CH9	SDD80	Dial Drum	1	Z
CH10	SMN610	Rear Cover	1	New Z
CH11	SMY92	Heat Sink	1	Z
CH15	SHG314	Rubber Foot	1	Z
CH16	RDZ05-4	Dial Cord	1 m	Z
CH17	RDS417	Dial Spring	1	Z
CH18	SDY12	Pulley Shaft	1	Z
CH19	SUS54-1	Plate Spring	1	Y
CH20	SMX30	Spacer, Micro Switch	1	Y
CH21	SMY22	Heat Sink	1	Z
CH22	SMY46	Heat Sink	1	Z
CH23	SXE76	Lifter Assembly	1	Z
CH24	SME100	Pickup Plate	1	Z
CH25	SME104	Rest Lever A	1	Z
CH26	SME106	Rest Lever B	1	Z
CH27	SME108	Rest Cam	1	Z
CH28	SME120	Lift Lever Assembly	1	Z
CH29	SME114	Clamp Lever	1	Z
CH30	SME110	Lift Plate	1	Z
CH31	SNE424	Nut	1	Z

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
CH32	SGX808	Trim	1	Z
CH33	SUS136	Spring	1	Z
CH34	SJA46	Power Cord with Plug	1	Z
	SJA68	Power Cord with Plug	1	Z
	QFC10332000	Power Cord with Plug	1	Z
CH35	SJJ32	Headphone Jack	1	Z
CH36	SNE439	Nut, Headphone Jack	1	Z
CH37	RJJ78	Mike Jack	2	Z
CH38	SNE420	Nut, Mike Jack	2	Z
CH39	SJF3602	Terminal Board	1	Z
CH39	SJR402	Terminal Block (4P)	1	Z
CH40	SDT1328	Tuning Shaft Assembly	1	Z
CH41	SJF106	Lamp Holder	4	Y
CH42	SJF104	1P Fuse Holder	3	Y
CH43	SXE70	Bracket (L), Cassette Cover	1	Z
CH44	SXE72	Bracket (R), Cassette Cover	1	Z
		ACCESSORIES		
A1	WM2201N	Mike	2	Z
A2	WN123N	Mike Stand	2	Z
A3	SPS1HDZNRBZ	Demonstration Tape	1	Z
A4	SQX5332	Operating Instructions	1	New Z
A5	FFMCP0706D	Capstan (60Hz) FFMCP0705D (50Hz)	1	Z
		PACKING		
PA1	SPN1674	Inner Carton	1	New Z
PA2	SPG1290	Outer Carton	1	New Z
PA3	SPP146	Soft Cover for Dust Cover	1	Z
PA4	SPN1622	Pad, Top	1	Z
PA5	SPN1626	Pad, Bottom	1	Z
PA6	SPN1628	Speaker Pad	2	Z
PA7	SPP160	Polyethylene Cover, Main Cabinet	1	Z
PA8	SPP68	Polyethylene Cover, Speaker System	1	Z

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
		CABINET		
CA21	SYE250	Badge Assembly	1	Z
	SKA540	**Cabinet Assembly**	1	Z
	SKM4100-1*	Motor Board	1	New Z
	SGE524	Translucent Plate, Dial	1	New Z
CA1	SGX800	Trim, Motor Board	1	Z
CA2	SGX802	Trim	1	Z
	SKA840	**Cabinet, Complete**	1	New Z
CA3	SGX806	Trim, Cassette Cover	1	Z
CA4	SGE468	Transparent Plate, Level Meter	1	Z
	SYK1166	**Motor Board, Complete**	1	New Z
CA5	SDH94	Reflective Sheet, Cassette Deck	1	Z
CA6	SGE278	Cassette Cover	1	Z
CA7	SUW742	Bracket, Cassette Cover	1	Z
CA8	SUS66-1	Spring Cassette Cover	2	Z
CA9	SUH2	Shaft, Cassette Cover	2	Z
	SGE462*	Dust Cover	1	
	SYE234	**Dust Cover Assembly**	1	Z
CA10	SGB448	Badge, Dust Cover	1	Z
CA11	SYU222	**Bottom Cover**	1	New Z
CA12	SBN454	Tuning Knob	1	New Y
CA13	SBC144	Power Switch Button	1	New Y
CA14	SBN478	V Knob	3	Y
CA15	SBN480	S Knob	2	Y
CA16	SBN482	Speed Selector Knob	1	Y
CA18	SBC128	Push Button Assembly, SPKR	1	Y
CA19	SKD3101	Dial Plate	1	New Y
CA20	SHG314	Rubber Foot	4	Z
		SPEAKER CABINET		
CA21	SKA681	Speaker Enclosure	2	Z
	SKA680	**Speaker System Assembly**	2	Z
CA22	SYB92	Baffle Board Assembly	2	Z
CA23	SGB303-3	Badge	2	
CA24	XNK2W	Speed Nut	4	Z
CA25	SKU1080	Rear Cover	2	Z
CA26	SGN1220	Name Plate, Rear Cover	2	Z
	SJP2206	Speaker Cord	2	New Z

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
		Cassette Tape Recorder SJD36		
1	SMQ1028	Chassis Ass'y	1	
2	SMQ422	Push Button Frame Ass'y	1	
3	SYE254	Button Ass'y "REC"	1	
4	SYE256	Button Ass'y "REW"	1	
5	SYE258	Button Ass'y "FF"	1	
6	SYE260	Button Ass'y "PLAY"	1	
7	SYE262	Button Ass'y "STOP"	1	
8	SYE264	Button Ass'y "EJECT"	1	
9	SMQ1030	Head Panel	1	
10	SMQ1032	Collar A	3	
11	SMQ38	Pinch Roller Ass'y	1	
12	SMQ578	Spring C, Pinch Roller Ass'y	1	
13	SMQ42	Stud A	2	
14	SJH14	Erase Head	1	
15	SMQ228	Stud B, Record-Playback Head	1	
16	SMQ230	Stud C, Record-Playback Head	1	
17	SMQ232	Coil Spring A	1	
18	SJH2	Record-Playback Head	1	
19	SMQ52	Spring D, Head Panel Action Bracket	1	
20	SMQ1058	Stop Lever	1	
21	SMQ1060	Spring A, Stop Lever	1	
22	SMQ1038	Brake Arm	1	
23	SMQ166	Spring E, Brake Arm	1	
24	SMQ168	Pivot, Brake Arm	1	
25	SMQ234	REC Safety Lever B	1	
26	SMQ1062	Spring B, Stop Lever	1	
27	SMQ922	Reel Holder Assembly	2	
28	SMQ236	Pop-up Lever Ass'y	1	
29	SMQ240	Spring I, Pop-up Lever	1	
30	SMQ242	Switch Holder Spring Ass'y	1	
31	SMQ836	Counter Assembly	1	
32	SMQ1054	Bracket, Counter	1	
33	SMQ1056	Belt, Capstan	1	
34	SMQ124	Shaft Ass'y	1	
35	SMQ414	Spring Q	1	
36	SMQ482	Flywheel Ass'y	1	
37	SMQ244	Bracket Ass'y	1	
38	SMQ140	Belt, Capstan	1	
39	SMQ148	Washer, Oil Thrower	1	
40	SMQ58	Actuating Lever "FF"	1	
41	SMQ72	Spring K, Actuating Lever "F"	1	
42	SMQ60	Shaft B, Brake Operating Plate	1	
43	SMQ62	Brake Operating Plate	1	
44	SMQ246	FF Idler Ass'y	1	
45	SMQ74	Spring L	1	
46	SMQ248	FF Operating Plate	1	
47	SMQ104	Shaft C, FF Operating Plate	1	

REF. NO.	PART NO.	DESCRIPTION	PER SET (pcs.)	REMARKS
48	SMQ90	REW Arm Ass'y	1	
49	SMQ92	Spring M, REW Arm Ass'y	1	
50	SMQ86	Holding Plate, FF Idler Ass'y	1	
51	SMQ108	Take-up Arm	1	
52	SMQ1048	Spring N, Take-up Pulley	1	
53	SMQ110	Clutch Wheel	1	
54	SMQ112	Clutch Felt	1	
55	SMQ114	Take-up Idler	1	
56	SMQ116	Spring O, Take-up Idler	1	
57	SMQ118	Cap, Take-up Idler	1	
58	SMQ120	Washer, Cap	1	
59	SMQ122	Motor ON-OFF Switch	1	
60	SMQ152	REC Safety Lever A	1	
61	SMQ154	Spring P, REC Safety Lever A	1	
62	SMQ158	REC Safety Spoke	1	
63	MHT-5PS	DC Motor	1	
64	SMQ250	Bracket C, DC Motor	1	
65	SMQ198	Pulley, DC Motor	1	
66	XXA2A-3	Screw A, DC Motor	1	
67	SMQ64	Nylon Washer 2ϕ	3	
68	SNT440	Circlip 1.2 m/m	3	
69	SNT442	Circlip 1.5 m/m	3	
70	STN444	Circlip 1.9 m/m	2	
71	SNT446	Circlip 2.3 m/m	1	
72	XWA26B	Spring Washer	3	
73	SMQ1064	Pin, Stop Lever	1	
74	SMQ162	Spacer B	2	
75	XNG26B	Nut 2.6 m/m	2	
76	XSN17+4	Screw 1.7 mm x 4	1	
77	XSN2+12	Screw 2 mm x 12	3	
78	XSN26+3	Screw 2.6 mm x 3	5	
79	XSN26+4	Screw 2.6 mm x 4	12	
80	XSN26+6	Screw 2.6 mm x 6	6	
81	SMQ1050	Auto Stop Lever Ass'y	1	
82	SMQ1052	Bracket F, CH	1	
83	SMQ258	Spring P, CH	1	
84	SMQ260	Coil Spring	1	
85	SMQ220	Lead Holder	1	
86	XSN2+5	Screw 2 mm x 5	6	
87	XWA2B	Spring Washer	5	
88	XSN3+4	Screw 3 mm x 4	3	
89	XWE26B	Washer 2.6ϕ	6	
90	XWE2B	Washer 2ϕ	1	
91	XNG2B	Nut 2ϕ	2	
92	SMQ148	Washer, Oil Thrower	2	
93	XNG26B	Nut 2.6ϕ	3	
94	XNB26+12	Screw 2.6 mm x 12	2	
95	SJT202	Lug	1	

Printed in Japan
730160T - Ⓖ